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LOUISIANA *Conservationist*

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

APRIL

1962



April, 1962

Conservation Pledge

I give my
pledge as an American
to save and faithfully to
defend from waste the
natural resources of
my country—its soil
and minerals, its
forests, waters
and wildlife

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Spring marks the transition from hunting to fishing. Louisiana's lacework of bayous, lakes and streams provide unexcelled fresh water fishing. With the spawning season over, fish are eager to bite. The state offers top bream and crappie fishing, but bass fishing attracts more fishermen. The sulky bass is king of Louisiana waters because of its dogged fighting qualities and aerial tactics when hooked. Moody at times, bass are highly sought. On the other hand, no angler in Louisiana passes up a mess of bream when the opportunity presents itself.
(Photo by Jack Britt)

LOUISIANA Conservationist

LOUISIANA WILD LIFE AND FISHERIES COMMISSION

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Governor



L. D. YOUNG, JR.
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EDITORIAL

AT ITS REGULAR November public meeting, the Louisiana Wild Life and Fisheries Commission adopted a protest resolution directed to the U.S. Department of the Interior, Fish and Wildlife Service, for imposing the shortest duck season and bag limit for Louisiana in the history of waterfowling.

The Commission pointed out at the time the resolution was passed that duck inventories made by waterfowl biologists revealed the State's duck population was large and was even greater than the past ten year average, with more waterfowl pouring into the marshes every day.

In substance, the resolution called attention to sole authority entrusted to the U.S. Department of the Interior, Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, to establish hunting regulations on migratory waterfowl.

Under federal authority this Agency granted Louisiana a 19½ day duck season, reportedly based upon a shortage of ducks resulting from poor nesting conditions on the breeding grounds. At the same time, the U. S. Fish and Wildlife Service also chose to include nuisance regulations such as beginning the opening day of shooting at high noon, and shooting each following morning at sunrise instead of 30 minutes before, as had been permitted in the past, all of which served no useful purpose but do detract from the sport of waterfowl hunting.

It was brought out in the resolution that the State of Louisiana contributes substantially to maintenance of breeding grounds through Ducks Unlimited, the only organization in the United States actually engaged in preserving nesting areas and pothole type waterfowl habitat in Canada; and that Louisiana makes a major contribution to the future maintenance of continental waterfowl populations by managing 326,000 acres of marshlands specifically for ducks and geese.

It was pointed out that in addition to a major part of enforcement of regulations relating to the taking of waterfowl, Louisiana continuously works toward preservation of wetlands in the State, and conducts research programs, and promotes marshland management programs on the part of private landowners which are envied and respected by all of the states.

On those grounds, the Commission protested that the regulations of the Department of the Interior pertaining to waterfowling were unjust and unfair to waterfowl hunters in Louisiana and other states.



L. D. YOUNG, JR.
Director

There can be little doubt that the resolution of protest was rightful and based upon a true evaluation of waterfowl conditions. Any possibility of doubt was erased by results of the annual mid-winter waterfowl inventory directed by the U.S. Fish and Wildlife Service and assisted in by the water-

fowl biologists of Louisiana.

It was found that the number of ducks wintering in Louisiana showed an increase instead of a decline as compared to previous years. The total count for the State showed 4,700,000 ducks, or nearly 300,000 more than were found during a similar survey in 1961.

The population of mallards, cited by official news releases of the U.S. Fish and Wildlife Service, as a principal index of a major duck decline in the Mississippi Flyway was not reflected in the species count and overall total of ducks in Louisiana.

On the contrary, the mallard population in Louisiana has remained virtually static for a number of years and has not fluctuated with annual changes in water conditions in Canada.

Another significant point worthy of consideration is that the Louisiana duck season ended November 29, and waterfowl in the State had over a month's time to disperse from the normal refuge concentrations. In addition, the year 1961 was one of the wettest on record for Louisiana. This resulted in a great increase in available habitat in both the rice lands and wooded bottom lands of the State.

Both U.S. Fish and Wildlife Service and Com-

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Bird Of The Month.....Inside Back Cover



Boaters . . .

Grits Gresham

SPRUCE UP FOR SPRING

IN LOUISIANA the snow is gone! Even in the most northerly parishes the only cold weather left will be a brief gasp or two as winter reluctantly bows out. With the exit the thoughts of Louisiana sportsmen turn to water activities, as the vast wave of boaters, fishermen, and water skiers stir from a few months of semi-dormancy.

The snow is figurative, of course—except for an exceptional year now and then, and many Louisiana boaters never really put their craft into storage at any time of the year. The lure of the gun, however, takes many boats out of circulation during the hunting season, more so than does the weather.

But Spring is a time for sprucing up, for checking out your rig with the array of summer-time activities in mind, and this is equally true whether your boat has been sitting on the trailer since last fall or has seen weekly use.

By the nature of the game, marine equipment takes a tremendous lot of abuse during the course of a year in service. The boat hull is subjected to collisions with boat docks, stumps, rocks, oyster reefs, and floating debris. The lower unit of the motor gets the same treatment, only more so. The whole outfit is frequently exposed to wind, dust, sand, and water. Periodic maintenance is in order, and now is a fine time for a major checkup.

It's The Law

Examine, first of all, the equipment requirements called for by state and federal boating laws. You may have been legal last summer, but wear and loss could have brought your gear below minimum standards.

A life preserver is required for each person

on board ANY boat, regardless of horsepower, and it must be U.S. Coast Guard approved. A "ski belt" is not acceptable to meet this requirement, although every water skier should wear one.

Check your preservers to see that the straps and buckles are in good condition, and that the inner, waterproof liner has not been punctured. If you've been sitting on a water-logged cushion for a season or two, better check to make sure it will still support you in the water.

Did you get a new outboard motor for Christmas? If it's bigger than a ten horsepower then you'll have to register the boat you use it on. Get an application blank from any marine dealer, sheriff's office, or from the Wild Life and Fisheries Commission office in New Orleans. Follow the instructions on it.

If your boat is registered it must be numbered, and boat numbers have a way of being rubbed off. Make sure that your number is still intact and is legible.

All motorboats used at night are required to have a red-green bow light and a white light at the stern. Easily detachable lights of this kind, which are inexpensive and use only flashlight batteries, are available from marine dealers. Some of these have their own brackets for quick attachment, and others can be fastened to bow, stern, or gunwale with a small C-clamp.

All boats used at night must have, in addition to the above, a hand flashlight or lantern which can be used to signal another boat to avoid a collision.

If you use the detachable type lights, and most small fishing boats do, you need a container to

keep them in—keep them safe from water and breakage. Most army surplus stores can fill this need. Get one of the metal ammunition boxes in the size you need—the kind with a rubber gasket around the top and a friction type catch. They're waterproof, and when lined with sponge rubber, crushed paper, or other insulating material they'll keep your lighting equipment in first class condition.

Check the batteries in these lights frequently. If the ones you have now were left over from last season throw them away and replace with fresh ones.

Only two types of fire extinguishers are now legal: those using either foam or dry chemical. The carbon tet type is not legal as of January 1, 1962 to meet the boat law requirements. If your boat is required to have one or more extinguishers aboard (all inboards; outboards 26' or longer), check them to see that they're full and in operating condition.

Most small boat accidents in Louisiana, incidentally, are the result of fire and explosions on inboard boats. The U. S. Coast Guard has proposed a change that will require a portable fire extinguisher on all outboard motorboats, regardless of length or construction. Check to see if this has become law.

Planning For Pleasure

With the lawful requirements in order, let's turn to other aspects of boating which need spring consideration. First, and most important, is you—the boater, himself.

It's a documented fact that most accidents are caused by the experienced boaters. Overconfidence breeds contempt and forgetfulness. This was brought home to me last week when I found myself several miles from the dock in a 75 hp runabout with no paddle and no anchor. I didn't need them, fortunately, but I could have been unlucky.

I had gotten out of the habit of safety. I had



Your "boating rig" includes boat, motor, trailer, auto, operator, and miscellaneous equipment like skis and fishing gear. Check them all in getting ready for summer pleasure.

failed to run through my checklist of equipment before shoving off.

A real honest-to-goodness checklist is a time-saving, trouble-preventing system to follow, whether it's for a 12' bateau or a 40' cruiser. Many boaters actually fasten the checklist to the boat itself, and a couple of coats of marine varnish will protect it from the weather for a long time.

The list will vary depending upon your own needs. For my fishing boat it runs like this: gasoline, paddles, anchor, tackle box, rods, ice box, fish stringer, rain gear, drinking water, camera, boat seat, cushion, sun glasses, and flashlight.

The bigger runabout is used for a wider variety of activities, and the checklist is longer: gasoline, extra gasoline can, paddles, anchors, tackle box, rods, ice box, fish stringer, rain gear, drinking water, camera, life preservers, sun glasses, flashlight, extra prop, tools, spare line (rope), first



Boaters should practice unloading and loading their boat under various conditions. Sometimes a concrete ramp is available, but sometimes that isn't the case.



Billy K. James, Boat Registration Supervisor for the Commission, checks the author's sons on Cane River. The ski belts they're wearing don't meet the "life preserver" requirement, but the bouyant cushions do. The other agent with Billy is Ed. Goudeau.

aid kit, radio, skis, ski belts, ski ropes, boarding ladder, boat hook, towels, binoculars, food, mosquito repellent, snakebite kit, and suntan lotion.

It's seldom that you will need all of the items on any one trip, but by having them typed or printed on a card you can rapidly scan the list, eliminating those you don't need on that particular outing.

You'll develop your own system to meet your own requirements. In my fishing boat, for instance, I know I'll always have a tackle box, which always contains mosquito repellent, tools, and snakebite kit, so I don't list those items separately. I may not take a tackle box in the run-about, however, so I do list repellent, tools, and snakebite kit separately.

"Tools" is simply a term I use to mean tools needed for minor repairs on boat, motor, or trailer, but also spare spark plugs, shear pins, and the like.

Give all of your boating equipment a thorough inspection before launching into the new season. On that runabout, check all connections to make sure they're tight—bow eye, steering wheel, motor bracket, windshield mounts, hardware, running lights, and canopy mounts.

On that trailer: check your winch, winch rope or cable, rollers, hitch, tiedowns, wheel bearings, wheel bolts, tire casings and tubes, paint, and lights. In all cases where wear is apparent make the necessary replacements or repair. A trailer is not a thing of beauty as is your boat, but it can make or break a boating outing.

On that cartop carrier: check the rubber suction cups, the straps that hold the carrier to the car, the straps that hold the boat to the carrier, and the bolts in the carrier itself. If any of these give way when you're traveling at high speed on a busy highway, you may be tabbed for damage caused by your flying boat in addition to losing the craft itself.

On that motor: check the prop for nicks or dents, replace the grease in the lower unit, replace the spark plugs (you'll save more than their cost in gasoline by starting with new ones), check the fuel hose for leaks, dump the gasoline that's been in the tank for weeks and clean out the

tank, tighten all connections and bolts, check steering adjustment, and clean the motor thoroughly.

On your auto, which is a part of your boating rig: check the trailer hitch. It should be fastened to the frame of the car. Check car brakes, emergency brake, shock absorbers, cooling system, and battery. Pulling a boat puts an additional load on all of these.

How About You?

Give yourself a mental spring checkup regarding your boating habits. Ask yourself a few questions. Do you remain seated while cranking a rope-starting outboard, or have you gotten in the habit of standing up? Do you periodically check the transom clamp screws of your motor? Do you always discard your cigarette or cigar while refueling? Do you always wipe up spillage and let the fumes dissipate before restarting the motor?

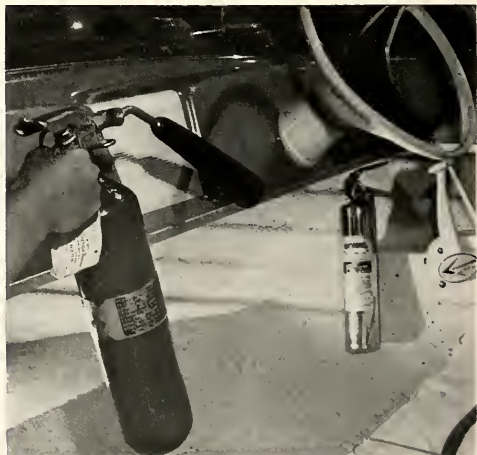
There are some "don'ts" which we should all review. Don't change the throttle setting while people are standing or moving about in your boat. Don't let anyone ride in the boat when it's being trailered. Don't let people ride on the deck of your boat. Don't fail to brush up on your knowledge of buoy markings, flag signals, and horn signals before you venture into waters where they may be needed.

One of the commonest mishaps of outboarders is to forget to close the transom drain plug before letting the boat slide off the trailer into the water. Why not letter the words "Check Drain Plug" on the trailer's winch pedestal so you will always see it and be reminded of this vital little chore.

Fun In The Sun

The two-boat family is now common. The bream fisherman is also a skier. The rig fisher-

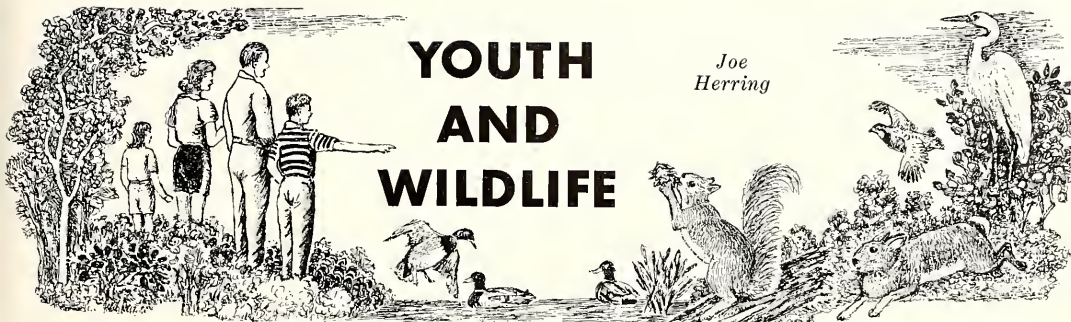
(Continued on page 16)



The only types of fire extinguishers now legal to meet boat law requirements are those using foam or dry chemicals. The carbon tet extinguisher no longer suffices.

YOUTH AND WILDLIFE

Joe
Herring



Conservation Clubs In Schools

Throughout our state we find many of our schools encouraging students to form conservation clubs. Principals, teachers and counselors find that through conservation clubs students become more familiar with our state and our national natural resources. Students, through clubs, take part in extra curricular activities pertaining to wildlife resources.

One such club in our state that is making very good progress with their youth is Houma Junior High School Conservation Club, Houma, Louisiana. This club is under the leadership of Messrs. John B. Marceaux, School Counselor, and James Williams, teacher. These two leaders, at the suggestion of Mr. William J. Davis, school principal, formed this active club.

The leaders feel that the club serves several purposes for members. The purposes are (1) that during the impressionable period of life students learn the proper procedure for group action and participation, (2) students develop the practice of meeting together, combining their own ideas for the purpose of solving problems, (3) students prepare programs and keep abreast of wildlife activities within our State, and (4) students learn of the natural laws at work in the outdoors which leads to an active appreciation of natural resources and their practical values, and this in turn to a desire to manage them wisely.

One student of the Houma Junior High School Conservation Club, Glen Picou, has as his hobby taxidermy. Glen prepares mammals and reptiles for school use as visual aids. Not only is this a hobby with Glen but he hopes to pursue this type of work as a profession. Through club participation individuals may assist and help each other with their various talents.

Wildlife Instructors for the Louisiana Wildlife and Fisheries Commission have presented several programs to this group. Such programs as Careers in Wildlife, Management of Our Wildlife Resources, and Oyster and Oyster Production, have been given.

Read With Me

Clubs find that visual aids and library materials are most helpful in their activities and collections. For library reference purposes a new book is just off the University of Texas Press, titled, *Trees, Shrubs and Woody Vines of the Southwest*, by Robert A. Vines. The book is a guide to plants for the states of Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. The 1,231 species of plants described by the author are grouped into 102 Chapters with each chapter representing a different plant family. Well bound and finely illustrated, it is a quality publication from cover to cover. This publication may be purchased from the University of Texas Press, Austin 12, Texas, or your local bookstore.

Visual Aids For Instruction Purposes

Some clubs are active in producing visual aids for instruction and display purposes. The art and skill of using a woodburning set is most helpful in this work. These sets may be used for burning images of animals, plants or other forms onto wood. Woodburning sets are reasonably priced and easy to use. Grammar, Junior High as well as High School students may

find woodburning sets useful in their hand craft work. Sets may be obtained from hobby shops or from Ungar Electric Tools, Los Angeles 66, California.

Wildlife Instructor Activities

January found Wildlife Instructors very active in the schools throughout the State. Wildlife Instructors presented 264 programs to 9,949 students. During this period two television programs were presented over KLSE-TV, Louisiana State Department of Education Television Station in Monroe. Estimated viewing audience for the two programs was 6,000. One display was set up at the Louisiana Fur and Wildlife Festival at Cameron.

Commission Booklet Available

"Crawfish Culture-Mudbug Farming" by the late Percy Viosca, Biologist, is available free, upon request to this office. Mr. Viosca describes some of the methods used in Louisiana to raise crawfish on a commercial basis. The booklet is illustrated with line drawings, photographs, and contains information of value to students preparing papers on crawfish, or as suggested material for science fair displays. Copies may be obtained by writing Louisiana Wild Life and Fisheries Commission, Capitol Station, Baton Rouge, Louisiana.



Glen Picou discussing some of his taxidermy work with members of the Houma Junior High Conservation Club during one of its regular meetings. Conservation clubs assist students in sharing their talents and skills with each other.

THE COASTAL MARSHES



Louisiana Fishery

Larry H. Ogren

ALMOST ANY ANGLER or commercial fisherman will tell you of the times they really hit into a school of speckled trout or redfish down in the marsh country. Further questioning of these fishermen would probably bring out the many times they came home without any fish or perhaps disgusted with the "trash" fish that ate up all their bait or fouled up their nets. On another occasion one of these "saltwater" fishermen might show you a fine string of bream (sunfish) and green trout plus a couple of flounders and maybe a twelve pound redfish that he caught in Bayou Hasouse.

Perhaps some of you who haven't had the opportunity to fish these waters may wonder just what sort of conditions exist along the coast that produces both salt and fresh water fishes and an apparent dramatic seasonal fishing for certain species. Well, it's a situation where gulf waters



mix with the rivers and marsh watersheds to give us a brackish (low salinity) environment that can be tolerated by many freshwater fishes and is apparently the preferred habitat for many marine species. The latter have become so adapted to this coastal environment that they are seldom found far from the coasts. Some marine organisms may utilize this brackish coastal area only during the early developmental stages of their life histories.

This transition zone between the fresh water of the rivers and marshes and the sea is called an estuary (when the term *estuary* is used in the descriptive form, it becomes *estuarine*, as in estuarine habitat or estuarine fish). The morphology (structure) of an estuary may, of course, vary greatly from one coastal area to another.

It is not surprising, therefore, to find some of this country's most extensive estuarine habitats located along the Louisiana coast where the Mississippi, Atchafalaya and Pearl Rivers dilute the the saline waters of the gulf. A considerable amount of information has been written about the natural history of gulf coastal fishes and other organisms, but compared to our knowledge of fresh-water fishes, much more research is needed in this particular area. The physical environment in estuarine waters is constantly changing. These changes may occur gradually through time in the form of natural geological agencies or by the development of areas by man in the form of canals, seaways and levees. Seasonal shifts in temperature, salinity, and other chemical factors due to the prevailing climatic conditions are a natural phenomena. Diurnal or daily changes in water



A spaghetti, or dart tag, is attached to the fish just below the soft dorsal fin prior to releasing. A number and the abbreviated form of Louisiana Wild Life and Fisheries Commission are printed on the plastic streamer. The public is asked to cooperate with this study by sending in any tag (or just the number) found on a fish along with the date caught, how fish was caught and the location—be as specific as you can.



Processing fish caught in a trammel net set. Total lengths, weights and condition of the gonads for reproductive information are always noted on the more important sport and commercial species of fish.

depth and salinity, among other things, by tidal action and winds are commonly experienced by all estuarine organisms.

The fishes in this habitat, therefore, will have to adapt to or tolerate these environmental fluctuations. In some cases the organisms leave the habitat and migrate in search of conditions that are more suitable for their particular needs. You can see why, with all these factors to consider, a great amount of detailed research and long term investigation would be necessary to understand the reasons for the present day distribution of fishes along our coasts.

In 1960, the Fisheries Section of the Fish and Game Division commenced such an investigation. It is a three year project financed through the Dingell-Johnson Federal Aid program. Because of extent of our coastal area, it was felt that only a small segment could be studied adequately and with enough consistency to give us the necessary information for this initial project.

With that in mind, the southeast shore of Lake Borgne, in St. Bernard Parish, was selected for the center of operations. Possibly two factors that influenced us in making this selection are the fact that a large number of fishermen use this area, and that several very different estuarine habitats are relatively close to one another. In the marsh directly behind Lake Borgne water conditions are apparently fresh enough to satisfy spawning requirements for bass and bream. Beyond this "fresh water" habitat to the south and east, conditions get progressively more saline to produce extensive oyster reefs and a characteristic fish fauna (population) of black drum, speckled trout and sea robins. Lake Borgne and Halfmoon Island (Grand Island) just off the mouth of the Pearl River, are sampled periodically. High salinities are recorded here for most of the year except when the Pearl River floods and discharges large amounts of fresh water into the area.

In all, five general areas have been selected from which to collect fish samples throughout the

year because of their apparent physical and chemical differences. In addition to the scheduled fish collections being made in these areas, other physical and chemical data are recorded at the time the catches are made. The latter information consists in part of temperature, tide stage, turbidity of the water and salinity. It is hoped that some of these environmental factors just mentioned might be correlated with the presence or absence of fish from the area sampled and during the different seasons. At the present time, this indeed seems to be the case with certain species.

A regular program of scheduled fish collecting has been set up whereby each area is sampled several times every three weeks. This is done to insure us that areas are covered for the whole year and that any seasonal movements of fish out of or into an area are noted, if possible. An annual picture of the distribution of fish caught in our samples will, of course, be more meaningful than daily or weekly discrepancies in the collections. The latter could well be our inability to capture the fish, even though they are present in the area.

A unique method of fishing was developed which enables us to fish in the same manner in all the areas. By using a trammel net with certain modifications, we feel reasonably sure that very few fish escape and that its selectiveness for catching only certain species of fish is greatly reduced. This is important because we not only want to know the qualitative differences or similarities that exist under the varied conditions of the sampling sites, but we want to measure the quantitative aspects as well. The abundance of one fish in an area as compared to its scarcity in another area or at another time of the year may well indicate to us what type of environmental

(Continued on page 20)



A "rat" redfish caught in a trammel net. The trammel net has proven to be the most successful way to catch fish for this study. Other types of gear used to collect fish for different purposes and in restrictive situations are the cast net, trawl and stationary fish traps.



Let's Get Going!

MADAM SPRING is poking her perky head around the corner, luring us outdoors. Her green sprouts and red-budded trees have moved in on crunchy leaves and skeleton bushes.

And never let it be said that Louisiana lassies lag behind Madam Spring.

THERE'S SO MUCH TO DO. Try on last year's play clothes. Do they fit? Pick a vacation spot. Buy new fishing gear. Plant flowers. Get rid of poison ivy. Buy a new picnic basket.

LET'S GET GOING.

Let's Make Like New

If our seasonal lady, Madam Spring, were a beatnik, she would carry a banner reading, "Let's make like new", for Spring brings the gift of revival and rebirth, a new chance at life.

With Spring's help, we can plan our own revival . . . of family fun. Make every weekend a "retreat" from business worries and housework fatigue. Help your family enjoy each other more by being together outdoors. Perhaps you'll discover a new relationship, or perhaps you'll revive an old one.

Make A Pretty Face

Spring's lovely handiwork inspires women to look for the beauty in themselves. It's there. All it takes is the effort to "make the most of what you've got."

Start from the inside: Rejoice in the fact that you're a woman. Stretch those smiling muscles and put a new gleam in your eyes. Be happy and you can't help but be pretty, to those who really matter.

Now for the outside: Faithful exercise for the next few months will make a LOT of difference in the way those summer playclothes fit.

Treat yourself to a suntan. And while your skin is changing its color from Winter Biege to Golden Luster, use the time to brush your hair and manicure your finger nails and toe nails.

Spring can be a beauty treatment. It's yours for the taking.

WHERE TO!

If it's PARKS you want . . . Louisiana's got them. Big parks, little parks. Dense forests for veteran campers or "developed" camps for those who want to get away from it all . . . but not too far.

No matter where you live in Louisiana, you are not too far from a park.

The large state parks are located in six different parts of the state.

These parks, their location and facilities are briefly listed below:

CHEMIN-A-HAUT STATE PARK

Highway 139, 10 miles north of Bastrop
Cabins, group camps, refreshment stands, shelters, pits and tables, swimming pool, boating, fishing, bathhouse, camping areas.

CHICOT STATE PARK

8 miles north of Ville Platte off US Highway 167
Cabins, group camps, refreshment stands, shelters, pits and tables, beach, boating, nature trails, camping areas.

FONTAINEBLEAU STATE PARK

US 190, 3 miles east of Mandeville
Group camps, refreshment stands, shelters, pits and tables, beach, bathhouse, camping areas, nature trails.

LAKE BISTINEAU STATE PARK

Highway 163, 20 miles SW of Minden and US 80
Cabins, group camps, refreshment stands, shelters, pits and tables, beach, boating, fishing, camping areas.

SAM HOUSTON STATE PARK

Off US 171 north of Lake Charles on State Route 378
Shelters, pits and tables, boating, fishing, camping areas.

LONGFELLOW-EVANGELINE STATE PARK

St. Martinville on Highway 31, 7 miles east of US 90.

Group camps, refreshment stands, shelters, pits and tables, pool, bathhouse, camping areas.

Louisiana's Wayside Parks are smaller than the State Parks, but they contain most of the features on a limited scale. Wayside Parks, their locations and facilities, are listed below.

ABITA SPRING WAYSIDE PARK

Abita Springs on Highway 59

Shelters, pits and tables, pavillion.

BOGUE FALAYA WAYSIDE PARK

Covington, on US 190

Refreshment stands, shelters, pits and tables, beach, boating, fishing, bathhouse.

LAKE BRUIN WAYSIDE PARK

5 miles north of St. Joseph off of US Highway 65

Pits and tables, beach, boating, fishing, camping areas.



- 1 LAKE BISTINEAU STATE PARK
- 2 CHEMIN-A-HAUT STATE PARK
- 3 LAKE BRUIN WAYSIDE PARK
- 4 SAM HOUSTON STATE PARK
- 5 CHICOT STATE PARK
- 6 LONGFELLOW-EVANGELINE STATE PARK
- 7 BOGUE FALAYA WAYSIDE PARK
- 8 ABITA SPRINGS WAYSIDE PARK
- 9 FONTAINEBLEAU STATE PARK

FOIL....TOIL

In Your Outdoor Cooking

Save time and energy when you cook out. Use aluminum foil.

Foil has many faces. It can be a small-scale pressure cooker, an open pan, or a skillet. It can be a dishpan, a drinking cup, or a heat reflector.

Foil is an "all in one" container. Prepare individual foil packages of food at home; carry it, cook it, and eat it from the same container. (And, it's disposable, too.) Keep the following ideas in mind when you cook out with foil.

- Use a drugstore fold to make a pressure-cooker type of package. (It's airtight.)
- Allow room for expansion to prevent splitting of your foil package.
- You can brown food quickly by leaving the top of your foil packet open.
- Holes should be punched in top of foil packet after it is removed from fire to release steam.
- A coat hanger and a double fold of foil can be used to make a frying pan.
- Make a dishpan by fitting a fold of foil in a small hole in the ground and filling it with water.
- Always use heavy weight foil for outdoor cooking.

Try the foil-wrapped recipes on this page the next time you cook out. See how well you do at "foiling toil".

HAMBURGER DINNER (1 serving)

- 1 onion 1 carrot
1 potato ¼ lb. hamburger meat
- Cut up potato, carrot, and onion in small pieces. Form a hamburger pattie ¾ inch thick. Place ingredients side by side on a piece of foil. Season, wrap tightly, and put packet in embers. Cook 10 to 20 minutes.

LYONNAISE POTATOES (1 serving)

- 1 medium potato
1 small onion

Cut potato and onion into thin slices. Mix and wrap in foil with salt, pepper, and butter. Put in embers to cook for 15 minutes.

BAKED APPLE (1 serving)

- 1 large ripe apple
⅓ cup mixture of pecans, coconut, chopped dates, and brown sugar
1 marshmallow

Removed core from the apple. (Don't cut through the skin at one end.) Fill the hole with nuts, dates, coconut, brown sugar. Wrap in foil and place in embers. Right side up. Cook 20 minutes or until tender. Garnish with toasted marshmallow.

BAKED BANANAS

Wrap banana, skin and all, in foil. Bake in embers for 10 minutes.

CORN ON THE COB

Wrap each husked ear of corn in foil. Cook in embers 10 to 20 minutes. Serve with salt and butter.

PROFILES

IN CONSERVATION

"Conservation is a state of harmony between man and the land."—Aldo Leopold

(Editor's Note: We are pleased to publish the first in a series of profiles of members of the Louisiana Wild Life and Fisheries Commission and other personalities throughout Louisiana who have demonstrated by their unceasing activities a deep-rooted interest in conservation and the wise management of our fish and wildlife resources. During the months to come, readers will become better acquainted with the men who are devoting much of their time and energy to perpetuation of wildlife resources with the only reward being satisfaction in the knowledge they have contributed toward rewarding outdoor recreation for generations to come. First in the series is a profile of E. R. McDonald, Chairman of the Louisiana Wild Life and Fisheries Commission.)

IN REPLYING THAT he came to Louisiana from Florida in 1920, E. R. McDonald draws on his cigarette thoughtfully and it is easy to see him looking back and recalling those days near Gainesville where he hunted and fished as a boy.

Being able to look back well over 40 years to his youth in Florida and describe things as they were then is one of the qualities that makes an interview with him thought-provoking.

When he talks about hunting quail as a youth, he depicts a countryside of forests of virgin timber, of fields unfenced, of plentiful populations of game.

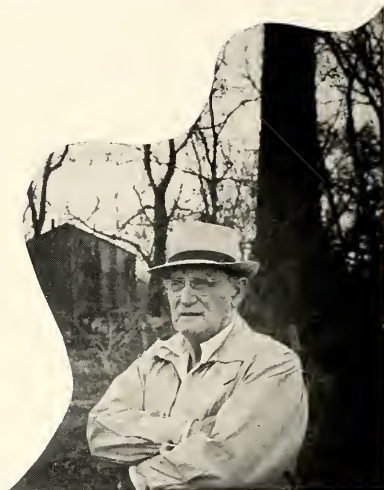
That's the way it was then. Although those days are gone forever, McDonald is firmly convinced that forward thinking, sound management, and planned activities can perpetuate hunting and fishing as we know it today.

In Louisiana, McDonald became aware of the one-crop economy that marked a rich and colorful period in the history of the South—an economy that almost destroyed the South.

In Newellton, where McDonald settled, cotton was King. It was produced by the "old way" of cultivation. Oldtimers call it the "double shovel" form of agriculture—a mule and plow for every man. It was an era in Louisiana when the land was like a patchwork quilt of cultivated fields fringed by dense hedgerows. These afforded cover and food for quail and rabbits. In the forests, deer, squirrels, bear and other forms of wildlife were plentiful.

Wildlife, like cotton, was considered an annual crop. It was there for the taking.

Drawing on his cigarette and looking away thoughtfully, McDonald remembers Louisiana four decades ago. There was no need for conservation or game and fisheries management as we



Mr. "Ed"

know it today. But the need came and McDonald was among the first to recognize that need and also among the first to put conservation into action.

The big flood of 1927 sparked close observation and contact with budding conservationists that soon built up to a driving determination to do something to protect and perpetuate wildlife resources.

The loss in wildlife due to the flood was staggering to McDonald. This was a period before levees were built to retain high water. To cite a single example, virtually all of Madison and Tensas Parishes were under water in 1927's flood.

Game was wiped out almost completely. A tiny herd of deer managed to find high ground. Their sanctuary was on the Madison-Tensas line. Food was carried by boat to the tiny herd. The aid of local people was enlisted in protecting the nucleus of the present high population of deer in northeast Louisiana.

It was then that conservation and management of wildlife became a burning issue with McDonald. A number of clubs was formed by members of approximately 20 families. At first, the primary objective of the clubs was to build and restore the deer and wild turkey populations.

Today these clubs are principally hunting clubs. They are private, but the landowners who retain the hunting rights are merely realizing the fruits of years of concern for, and protection of, game species.

McDonald traces the close of the bountiful era before the flood to today's ample and harvestable supply of game. His observations cover several decades.

As he speaks, one who listens can visualize the years during which drainage took place. Years in which land was cleared on a large scale, resulting in destruction of habitat and forcing constriction of wildlife.

Access roads made inroads into game populations, but the spirit of conservation that was born in the flood of 1927 has been preserved to this day.

During the years that he describes so vividly, one sees the disastrous results of the boll weevil, reducing agricultural production to an all-time low. In the transition from man power to mechanization, one sees the result of scientific research.

McDonald was among the first to realize that man could not keep taking from the soil without replenishing. He was one of the first producers of clover and a leader in the use of chemical fertilizer to revitalize the land he loves.

As he speaks, one can visualize the depletion of wildlife and the return of wildlife. The population growth is placing greater and greater demands upon the land, for food, for agriculture, for minerals, for timber, for many things.

Having flown repeatedly over every part of Louisiana and seen firsthand the depletion of forests and wildlife habitat, McDonald is a staunch supporter of the program initiated by the Louisiana Wild Life and Fisheries Commission to acquire land through outright purchase.

The 15,000-acre Russell Sage Wildlife Management Area, purchased in late 1960 for approximately \$29 per acre was formally dedicated in the summer of 1961. It will serve as a pilot operation in land acquisition and management, preserving game and other forms of wildlife for future generations.

In McDonald's mind, this is merely a start in a program of land acquisition that is absolutely necessary to meet and satisfy the demands of a growing number of outdoorsmen. It is a late start, he feels, but it is a definite step in the right direction.

Strong in the belief that man must exercise judgement and provide the proper kind of management that is necessary to keep wildlife and utilization of natural resources balanced, McDonald views the new threat to wildlife with concern, but with hope and determination.

Land is the key to perpetuation of wildlife for hunting recreation and other forms of outdoor recreation. He advocates and is constantly working without let-up for the acquisition of land for fish and game management areas.

"Leased forest lands are uncertain areas upon which to pin the hopes of generations to come. As land passes from one generation to another, there is always the possibility that it may be put to a use other than habitat for wildlife. Ownership by the state, and permanent dedication of lands to wildlife and recreational uses, is the only certain way of assuring our future citizens a place to hunt and fish," says the Tensas sportsman.

As a personality, McDonald best sums up the

sentiments which are ingrained in his outlook and hopes for the future.

"I've enjoyed many years of hunting," he says as he looks up with bright knowing eyes. "Now, I want to assure the generations coming along they will have the same opportunity." *

RESOLUTION

WHEREAS, the LOUISIANA WILD LIFE AND FISHERIES COMMISSION takes pride in its WILDLIFE MUSEUM, and

WHEREAS, many individuals and organizations have contributed time and effort through these many years to restore and perpetuate countless numbers of wildlife specimens, and

WHEREAS, the Louisiana State University School of Medicine, located in New Orleans, has recently contributed a valuable collection of attractive display cases to the WILDLIFE MUSEUM, and

WHEREAS, these display cases will occupy a prominent place in future expansion of the Museum,

NOW THEREFORE, let it be known that the Louisiana Wild Life and Fisheries Commission is grateful for this contribution and salutes the Louisiana State University School of Medicine.

THUS DONE AND PASSED THIS twenty-third day of January in the year Nineteen Hundred Sixty-Two, in the City of New Orleans, Louisiana.



L. D. Young, Jr., Director

Letters...

Questions...

Answers...

about

WILDLIFE in LOUISIANA

conducted by Steve Harmon



Dear Editor:

Benton

Mr. J. P. Culpepper, representing the Louisiana Wild Life and Fisheries Commission, has conducted programs in all of the schools of Bossier Parish. His programs consisted of films, lectures and question and answer periods.

I have checked with the principals of the schools about the effectiveness of this program. It was well received in all schools. The principals and teachers in all schools feel that this program has given to the pupils much that they could not get from text books and regular classes. I feel that the pupils have received, from this program, most valuable information about the wildlife and fisheries of their state.

It is our belief that Mr. Culpepper performed a wonderful service for the pupils of our parish.

It is hoped that this program will be expanded in the future, and that our schools will have an opportunity to participate in it.

T. L. RODES,
Superintendent

Dear Editor:

New Orleans

I have been receiving your publication THE CONSERVATIONIST for some time and have enjoyed reading it very much. The articles are not only interesting but also educational. I have lived in Louisiana all my life and believe I have learned more about our state from your magazine than any other source, particularly from the wildlife and natural resource standpoint.

I have passed my copies on to other folks after reading them and this has invariably led to them

requesting to be put on your mailing list—one from our neighboring state of Texas.

Let me say "Thanks" to your staff for a job well done.

D. F. PALMISANO

Dear Editor:

Hammond

I would like to thank you for adding my name to your subscription list. I enjoy reading THE CONSERVATIONIST very much.

On a recent hunting trip, in the Tangipahoa River area east of Hammond, I killed a black rabbit. The rabbit had the characteristics of a wild rabbit. He was smaller than a full grown swamp rabbit, but larger than a full grown cotton tail. The dogs jumped and ran him like a swamp rabbit; he made a circle and came back. One of the "old timers" that I talked too, said he had heard of one being killed in that same general area about 15 or 20 years ago.

Do you have any information on a species of wild black rabbits? Could this be a throw back? Some say this was a cross breed of a tame black rabbit and a wild rabbit. Is this possible.

V. B. COLLURA

There is not a separate species of wild black rabbit in our country so the individual which you saw was probably what we call a melanistic specimen, which is simply one with an extra amount of black pigment of coloring material. This may occur in almost any species and might be loosely termed the opposite of albinism, at least in appearance.

While it is possible that this rabbit could be from tame stock I would consider it unlikely from your account of the location and condition of the hunt.

CHARLES R. SHAW

Dear Editor:

Minden

Mr. Joe F. Tomme recently spent a day with my biology classes showing films and lecturing. His work was very effective, and I feel that he is to be commended for a job that he does well. He has also visited two of our other schools in the city. He brought me materials and marine specimens for class room use. He is doing a fine work here in our parish.

BESS C. BASKERVILLE

P.S.—It has been brought to my attention by our parish biologist that there are pipe fish (marine species) growing and reproducing in Lake St. John. This has aroused my interest very much. If you have any knowledge of this little marine fish that has turned freshwater, I surely would like to have it and would thank you.

It pleases us very much that these instructors are doing such a wonderful job of explaining the fabulous wildlife resources' story to the future leaders of Louisiana.

*In answer to your question regarding the Gulf Pipe fish *Asynnothus scovelli*: our supervisor of fisheries, Mr. Harry Schafer, tells me that they have picked up this fish in population samples and the unique thing about the Gulf Pipe fish is that the male has a pouch where the female deposits the eggs and the eggs hatch in the male pouch. These fish are also found in other freshwater in the state, in addition to my favorite Lake St. John.*

STEVE HARMON



Dear Editor: Rayville

Enclosed herewith, please find picture of a very nice deer that was killed in Madison Parish during the past hunting season.

This deer was killed by my Chief Deputy, A. L. McKinney, Delhi, Louisiana, who is standing beside the deer in the picture. If you can use the picture in the magazine 'LOUISIANA CONSERVATIONIST', we would be glad for you to use it.

EARL E. HILL,
Sheriff

Dear Editor: Campti

I enjoy very much reading each issue of your magazine.

There is lots of good information in the articles that appear in your magazine.

I was interested in reading in your January, 1962 issue, the resolution passed by the Commission pertaining to duck hunting regulations not being fair to state hunters.

We did not get a fair number of days or bag limit.

The last of October there was a small flight for a few days.

From the first day of the season November 10th to the last day November 29th I was on the lake every day. I killed two mallards and 12 black ducks the entire season.

This morning, just 21 days after the season closed, there were lots of mallards on the lake, some within 50 yards of my boat dock.

I hope the Commission pushes their Resolution and gets some results from the Department of Interior so we will have a longer season and larger bag limit for next year.

I am for better hunting conditions as well as all other hunters in my territory. So continue the good work.

JACK MEARES

Dear Editor: Baton Rouge

In most hunter's eyes, be it turkey or others, the Foxhunter is an outlaw. Most people think Foxhunters have a year-round sport. This, however, is not true.

We have times when Foxhunting is better than others. This is in our winter months. There is nothing more beautiful to a lover of hounds than to hear a good pack running on a cold, clear winter night, be it fox, coon or cat.

During the summer, we all run our hounds—mostly to keep them in condition. Because we run our hounds in the Spring and Summer, does not mean we have a good chase.

During the Spring, when the fox is rutting, they are harder to run and don't run as long. They are even more clever when the kittens come. Nature takes care of them during these months, which is as intended. God put all animals here for a reason. During their mating season, He protects all of them. People who do not hunt and study these animals, would of course not know these things.

After these months of breeding and raising the young, we have our hot summer months. A hunter who hunts with dogs, be it hound or others, would know that under these conditions you cannot run these animals too long or too

often. We take them to exercise them and to condition them. True they strike and run some fox; but the summer races are not like you hear in the winter.

When you hunt with dogs, there is a lot more to it than just picking up your gun and going to the woods. It is a year-round job to take care of them. First, you have to build up a good pack, which costs a great deal of money. You breed for the best. You give them a good home and diet, take them to the vet, etc. You exercise them the year round—be it bird, rabbit, squirrel, coon, cat, deer or foxhunter.

A foxhunter, more than likely, hunts only one night a week. We all work, and cannot stay in the woods. We try to cooperate with all other hunters and sports lovers of all kinds. Most of us also hunt something other than the fox.

We would also appreciate your cooperation with us in our sport. We want to understand your problems and want you to understand ours. The fox is not as plentiful as people think, especially in some sections of the State. Most all of the other hunters will kill a fox on sight. Do you call this good sportsmanship?

Our woods are very big. We, as foxhunters, feel they are big enough for all who love them.

MRS. E. F. TUCKER, JR.



These bucks were killed in Concordia Parish the last week of the season. The names of the men are from left to right: Randolph Johnson, R. J. Bonnette, Melvin Boazman, Larry Boazman, Steve Sipes, D. G. Bonnette, J. W. Pugh, D. E. Meacham, A. E. Jacks, John Fetzer, Jr., John Fetzer, III, all of Shreveport.

WILD TURKEY

(*Meleagris gallopavo*)

The Wild Turkey is confined to the northern part and Florida parishes of Louisiana.

The turkey's coloration is bronze iridescence to the body, brown terminal band to the tail.

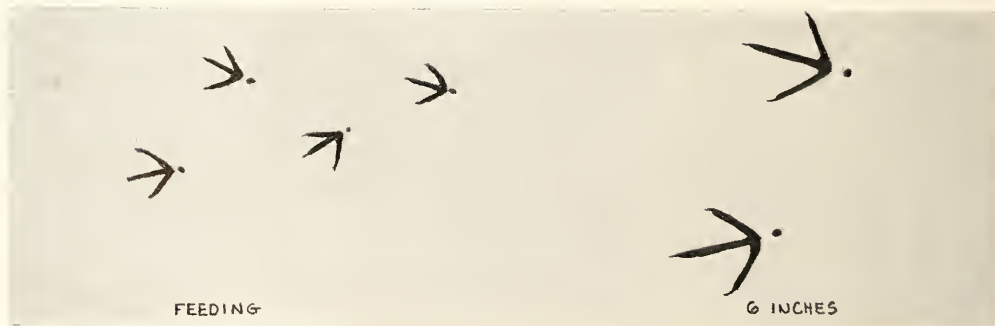
The calls of the bird are described as "gobbles" by the male, "pit" or "put-put" alarm call, "Keow-Keow" flock call.



The nest of the Wild Turkey is a concealed depression lined with dried leaves and located at the base of a tree trunk or next to a log.

The eggs are creamy white with red spots. Usually the nest contains from 8 to 15 eggs. These eggs are said to be covered with leaves when the bird is not on the nest.

TURKEY TRACKS



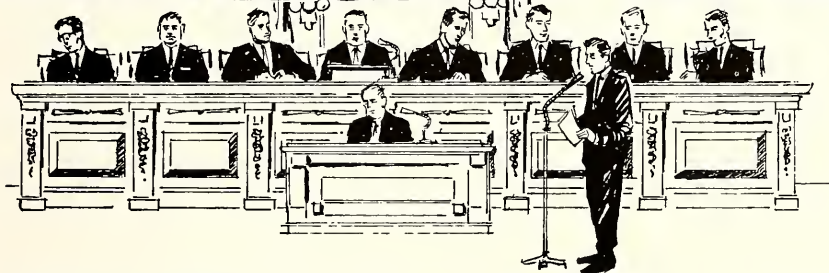
Scrapbook

Sidney A. Gauthreaux, Jr.

Louisiana CONSERVATIONIST

REPORT

on commission action



MEETING OF FEBRUARY 27, 1962

MEETING in the absence of Chairman McDonald and Vice-Chairman Whatley, Commissioner John Cutrone presided over the session held on the fourth floor of the Wild Life and Fisheries Building.

Following a motion which was seconded, the minutes of the regular meeting of January 22 and 23, 1962 and the special meetings of February 8 and 15, 1962 were adopted as submitted.

The first item on the agenda was to consider purchasing a site where the Opelousas district offices would be located. John Newsom, Chief of the Fish and Game division told the Commission that the Division of Administration had approved two sites: one in downtown Opelousas and the other located approximately four miles from the Opelousas city limits. Chief Newsom further stated that the Fish and Game Division recommended acceptance of the site four miles outside the city limits because the present Wild Life and Fisheries Commission radio tower is already located on this site and that it would entail the expenditure of funds to relocate this tower. Chief Newsom explained that both sites were being offered to the Commission for an equal sum of money, but that he felt that the outside city limits site would be the better one for the district headquarters' offices. Following Mr. Newsom's recommendations, the Commission decided to accept the site outside the city limits.

James N. McConnell, Chief of the Oysters, Water Bottoms, and Seafood Division read applications submitted by four firms for permits to dredge sand, gravel and fill materials in state water bottoms. The four companies were Al's Sand and Gravel Company, Road Construction, Inc., Anthony F. Mumphrey, and La. Construction and Materials Co. Following description of the applications, the Commission voted to grant permits to Al's Sand and Gravel Company and Road Construction, Inc. The Commission voted to grant a permit to Anthony F. Mumphrey in

a resolution calling for retro-active reimbursement for fill materials which had been taken by the company prior to issuance of the permit. The Commission awarded a permit to La. Construction and Materials Co. to dredge for sand, gravel and fill materials from the Intra-coastal canal to Belle Pass with the stipulation that no dredging would be done closer than 10 feet to any bulkhead existing or constructed in the future.

Director L. D. Young, Jr. called the Commission's attention to a summer science program for teachers at Northwestern State College in Natchitoches and explained that three terms of three weeks each on various natural resource subjects would be conducted for 45 carefully selected science teachers throughout the state. Northwestern State College officials requested \$600 from the Wild Life and Fisheries Commission to assist in conducting one of these terms, particularly the term that applied to forest and wildlife management. Mr. Young read a letter from Chairman McDonald to Northwestern State College recommending this expenditure to help defray expenses of conducting the forest and wildlife management phase of the teachers workshop. The recommendation was approved by the Commission and Director Young was authorized to advise the college officials of this action.

William C. Boehmer, President of the South Louisiana Gun Club appeared before the Commission and outlined plans for a free clinic in gun safety and shooting which would be conducted by the South Louisiana Gun Club with the cooperation of members of the clubs from Amite, Franklinton, Baton Rouge and New Orleans. He explained that the program had met with enthusiastic response of the New Orleans Area Council, the Boy Scouts of America and extended to members of the Commission and the Commission staff an invitation to any young people between the ages of 10 and 18 to enroll in the class in the clinics and have the benefit of expert instruction. The Commission con-

gratulated the South Louisiana Gun Club on this project and expressed the opinion that it will result in more safety afield on the part of young people.

Acting Chairman Cutrone called the Commission's attention to the time for setting the alligator season in Louisiana. Ted O'Neil, Chief of the Commission's fur division, informed the group that the 1960 Legislature adopted the first legislation toward protection of the state's alligator population by prohibiting the taking of alligators under five feet in length and authorizing the Louisiana Wild Life and Fisheries Commission to set seasons to establish areas where alligators can be taken and methods by which alligators can be taken.

Following a recommendation by Chief O'Neil, the Commission set the following season for the taking of alligators—April 15, 1962 through July 1, 1962 in the areas as follows, beginning at the Louisiana-Texas line on Highway 90 to Iowa Highway 165 to Forest Hill Highway 112 to Lecompte Highway 71 to Krotz Springs Highway 190 to Slidell Highway 11 to the Mississippi line. Alligators in all other areas in Louisiana will be protected during this period and during the closed season. Chief O'Neil recommended that these seasons and areas be adopted by the Commission excepting all of Cameron Parish which will be closed for the taking of alligators for an indefinite period. He explained that this action was taken at the request of Cameron parish officials because of the alligator restocking program being carried on presently.

Following a recommendation by Steve Harmon of the Education and Publicity Division, the Commission authorized the expenditure of \$5,280 for the printing of 26 wildlife resource education booklets. Work to be done by the division of Administration printing section.

Steve Harmon read a letter from Mr. Guy Martin, State Purchasing Supervisor, Division of Administration, State of Louisiana, addressed to Director L. D. Young, Jr. The letter pointed out that after careful consideration the division of Administration felt that all educational and documentary film would be done only after proper advertisement of bids by said division of Administration. Harmon recommended that detailed sets of resource film specifications be submitted to the division of Administration who will advertise for bids. He pointed out that one stipulation be that careful consideration be given to bids on the basis of wildlife resource film scripts to be submitted by all bidders. The Commission voted to adopt these recommendations.

Director Young called the Commission's attention to a letter from the Texas Game and Fish Commission calling for a meeting between Texas and Louisiana representatives to discuss reciprocal fish and game licenses agreement between the two states. To this committee, acting Chairman Cutrone named Commissioner Fleming, Director Young, R. K. Yancey, Ellis Irwin and R. P. Easterly. This action was approved by the Commission. +

EDITORIAL

(Continued from page 1)

mission personnel making the mid-winter survey found the duck population widely scattered. There is every reason to believe that many ducks were not visible to personnel making the winter count.

It is highly probable that additional hundreds of thousands of ducks, including mallards, were using the rice lands and wooded areas.

Discarding probabilities and possibilities upon which the U.S. Fish and Wildlife Service seemingly relies, the reasons motivating the resolution of protest remain unchanged.

There were more ducks in Louisiana during the 1961-62 wintering season than during the previous season, and a total population in excess of a ten year average. +

BOATERS

(Continued from Page 4)

man also cruises and fishes for sac-a-lait. As a consequence, the yard, garage, or dock of many Louisiana sportsmen is graced with both a small "fishing" craft as well as a larger, more powerful rig.

Boating in all of its forms has become the number one family recreational activity in the nation.

Early planning of boating activities means more pleasure, and now is not too soon to lay groundwork for summer cruises. First of all, make sure you have a copy of the Louisiana laws governing boating, which you can get by writing to the Commission. It contains all of the regulations and requirements. This article does not.

Maps and boating booklets are available free or at modest charge from many sources. The Corps of Engineers has excellent maps of their lakes, and booklets on river navigation. Their New Orleans and Vicksburg offices have material covering Louisiana waters.

The U. S. Geological Survey, New Orleans, has maps and charts of all coastal waters, and the Louisiana Department of Public Works has topographical "quadrangle" maps covering most of Louisiana. Write both of these agencies for free index sheets from which you can order the maps you need.

The Outboard Boating Club of America, 307 North Michigan Avenue, Chicago, Illinois, has a wealth of free information for boaters. Most boat and motor manufacturers also publish excellent booklets, which are usually available from marine dealers at no charge.

Whether you're going for a week-long cruise through some of Louisiana's remote waterways, or just out for a couple of hours after bass, your trip will be safer and more enjoyable if your gear is shipshape and you know how to use it properly. +



BETTER DUCK HABITAT!

Robert Chabreck

LOUISIANA'S UNIQUE position at the end of the vast Mississippi flyway coupled with its four million acres of coastal marshes make this state one of the major waterfowl wintering areas on the North American continent. During last winter Morton Smith, waterfowl biologist of the Louisiana Wild Life & Fisheries Commission, listed the states total as 4,700,000 ducks in addition to 383,221 geese and 477,100 coots. However, if Louisiana is to maintain its position as a leader in this field, private landowners must make every effort to provide ample facilities for the birds.

Although the Louisiana Wild Life and Fisheries Commission has made extensive efforts along this line, the bulk of the work must be absorbed by the individual. The work of the Commission can be not only a beginning in the right direction, but may also serve as a guide to landowners seeking means of improving their marshes for ducks.

Each year as more and more canals are dug and stream channels deepened for navigation, drainage and pipelines, a new milestone in the history of Louisiana's waterfowl marshes is reached. Their destiny greatly depends upon the planning under which such projects are executed to insure maximum security for all land use practices concerned. Salt water intrusion and tidal action, resulting in excessive flooding and drainage have greatly reduced the productive capacity of vast marsh areas, and unless concerted efforts are made by landowners and sportsmen, the acreage of this habitat will continue to decline. However, with careful planning many such projects can be used to an advantage for waterfowl habitat management.

One management system, which has proven very successful in counteracting this situation

and improving habitat conditions for practically all species of ducks wintering in Louisiana, is the use of impoundments. Impoundments are constructed by placing a continuous levee around a certain area then installing the necessary control structures to regulate water levels. Impoundments can be constructed on any marsh area capable of supporting a continuous levee, particularly in Southwest Louisiana, and will provide means of controlling water depth and salinity and, thus, an indirect control of the vegetation.

Coastal marshes in their natural state go through many changes. Certain stages in the change offer a great deal to wintering waterfowl, while other stages are frequently of little value. In addition to the natural plant succession or replacement processes, these changes are greatly affected by climatic factors as well as man's activity. All plants have a definite range of water depth and salinity tolerance, and when conditions escape this range, the plant disappears. Therefore, the goal in any management program is to maintain conditions favorable to the desired species.

The work of the Louisiana Wild Life and Fisheries Commission on Rockefeller Refuge may well serve as a guide to persons interested in this type of management.

Ten separate impoundments totaling 22,600 acres have been constructed on this area since 1954. Detailed ecological studies show that good duck food plants make up 50 percent of the vegetation in the impoundments, while in marsh outside the impoundments good duck food plants made up less than 5 percent of the vegetation.

The impoundments are of three types. The first type is permanently flooded with brackish water from 6 to 18 inches deep and consistently pro-

duces dense stands of widgeongrass. These impoundments are very attractive to all ducks, but especially gadwalls, widgeons and shovellers. The second type is permanently flooded with fresh water from 12 to 24 inches deep, but food production in this type is usually of a lower quality and usage is limited mainly to diving ducks and coots. However, in spite of its low productive capacity this type is maintained as fresh water reservoirs in case of a severe drought. The third type is managed as fresh water systems, but the water levels are manipulated to produce annual grasses. Each year the water is drained from these impoundments in May and the exposed bottom permitted to dry up. This encourages the germination of valuable species such as wild millet and cyperus (nut grass). Then, when the grass reaches a height of 10 to 15 inches the impoundments are reflooded to a depth of 4 to 6 inches. This type of management will produce an abundance of food which is heavily used by mallards, pintails, blue-winged teals and green-winged teals.

Prior to the construction of the impoundments waterfowl inventories listed the duck usage of the 85,000 acre refuge at 75,000 birds, but since the completion of the impoundments, duck usage has increased to 600,000. Although impoundments comprise less than one-fourth of the total area, 80 per cent of the ducks on the refuge are found in the impoundments.

Supplying water for coastal marsh impoundments frequently becomes a problem. Brackish water can be supplied simply by permitting the water to enter on high tides. However, impoundments managed as freshwater systems depend on rainfall. Pumping is not economically feasible on large areas. Also, canals surrounding such areas usually contain brackish water. Fresh water impoundments, which are drained during the early growing season to produce wild millet, present

the greatest problem. After germination, adequate moisture is necessary for growth. Without adequate moisture plant growth and seed production suffer. Consequently, reflooding the impoundment at the proper time is of essence.

Reflooding this species with approximately 4 inches of water after it reached a height of 6 to 10 inches produced rapid growth and an abundance of seeds in the impoundments in 1959. However, with a severe drought as in 1960 most of the wild millet germinated but died before reaching maturity. Also, excessive rainfall can be detrimental to the production of annual grasses. Heavy rains during the critical drying period in 1961 hindered germination and resulted in poor production that year.

Impoundments managed to produce widgeongrass may also dry up during severe droughts. However, the writer has observed this species' invasion of brackish ponds within two weeks after reflooding. Also, many barren ponds or ponds which supported no aquatic vegetation produced dense stands of widgeongrass when reflooded, after being completely dry for several weeks. Widgeongrass growth is often limited in such ponds by turbid water, resulting from soft organic clay bottoms and wind action. However, when dry the bottom material cements together and hardens, thus reducing turbidity when reflooded and providing a stable base for plant growth.

When considering the three impoundment management techniques on Rockefeller Refuge, it was apparent that the impoundments permanently flooded with brackish water produced an abundance of high quality duck food most consistently. The permanently flooded freshwater impoundments were dependable but the food produced was of low quality. The fluctuated freshwater impoundments produced an abundance of high qual-



Periodic sampling of aquatic vegetation is one of the duties of refuge biologists. The use of impounded areas where both the level and the salinity can be properly regulated is one of the reasons why Rockefeller Wildlife Refuge is one of the outstanding waterfowl refuges in the world.



Allan Enslinger, refuge biologist, is shown checking the growth of widgeon grass, vital to winter habitat for migratory ducks and coots wintering on the sprawling Rockefeller Wildlife Refuge.

ity food, but without absolute water level control, lean years were inevitable.

The impoundments on Rockefeller Refuge were constructed with draglines by digging canals and using the spoil to form levees. In most cases the canals were placed outside the impoundments. By doing this the canals provided access to different parts of the refuge and served as a refuge boundary marker. In certain areas the canals were placed inside the impoundments.

Most impoundments on the refuges were constructed by contract at a cost ranging between fifteen and twenty cents per cubic yard for levee construction. In many instances costs were reduced by using existing levees along canals dug by oil companies for access. Thousands of acres on private lands in Louisiana have been completely impounded by canal levees or spoil banks and conditions greatly improved for ducks. Other thousands of acres have been partially impounded and would require only short levees and water control structures for completion.

Corrugated metal culverts were installed to provide drainage for the impoundments and to regulate the pool stage. The culverts were treated with a cold tar base preservative and placed in the levee in natural drainage systems. Most of the culverts are 30 inches in diameter and equipped with an overflow structure to keep the

impoundment water below a certain level. A lift gate and flap gate were placed on opposite ends of each pipe to facilitate drainage. The flap gates permit water to flow in only one direction through the culverts, so that when the lift gate is raised water will not run into the impoundment on a high tide.

The life expectancy of an impoundment depends on a sound levee system. Levees must be constructed so as to maintain a desired height for the greatest number of years. As evidenced by levees constructed on Rockefeller Refuge, Lewis Nichols reported that in any levee planning careful consideration must be given the problems of levee subsidence and shrinkage. Most coastal marsh soils are semi-fluid material, and this material must not only be used for constructing levees but also serve as a foundation upon which the levee is placed. Also, the moisture content of the marsh soil determines the initial height that a levee may be constructed and the amount of shrinkage that will occur.

Much of the Louisiana coastal marsh is very unstable, particularly in the Southeastern section of the state, and will not support a levee. In such areas impoundments are not practical because of the maintenance problems involved.

Nichols also found that most levee shrinkage takes place during the first year; however, subsidence usually continues throughout the life of the levee. The subsidence rate is controlled by the nature of the marsh soil. The thickness of the surface organic layer determines the rate of



At Rockefeller Wildlife Refuge, the world's most comprehensive alligator research program is being carried on. Thousands of alligators have been live-trapped. Dorsal notching, tagging and continuing observation has brought to light new information about the annual growth, nesting habits, and reproductive capacity of alligators.



This stand of wild millet was produced by utilizing the impoundments. Water is drained off during the late spring and summer months, enabling biologists to produce thick stands of duck food. In the fall and winter months, flooding of the impounded areas creates ideal duck wintering habitat.

immediate subsidence. This layer compresses to approximately 60 per cent of its original thickness. With a complete knowledge of marsh soil conditions, it is possible to predict levee loss, within certain limits.

One or two lifts were usually necessary to raise and reshape a marsh levee after its original construction. This was done after approximately one year and regulated by the ability of the soil to stand at the desired elevation. Under normal conditions no attempt should be made to construct a marsh levee higher than six feet.

In addition to duck management marsh impoundments have other wildlife values which merit consideration. On Rockefeller Refuge the permanently flooded freshwater impoundments have proven very attractive to alligators. Impoundments constructed with a canal inside the area offer ideal conditions for the large reptiles. Both deep and shallow water and an abundant supply of food are available, and the levees provide choice nesting sites. The alligator population of a two-mile canal inside one particular impoundment on Rockefeller Refuge in 1960 was estimated at 600, with sizes ranging from one to nine feet.

In certain coastal areas deer populations have benefited from impoundments. In addition to having permanent fresh water and an increased food supply, the levees provide travel lanes, escape cover and make more areas easily accessible. +

SNAKE REMEDY

One poor creature who has few friends is the snake. The reasons are obvious, and campers know he's a good critter—to stay away from. When camping in snake-infested country, the wise sportsman will carry a handgun loaded with shotshells. This way, when Mr. Snake gets ready to strike, the camper will have a good chance of blowing him to bits.

COASTAL MARSHES

(Continued from page 7)

conditions it prefers. This is one of the main objectives of the program.

As we said earlier, information on the changing spatial distribution and movements of the fish along the coast is of prime importance. This knowledge coupled with the reasons why they occur would greatly help us in the harvesting of this food and sport resource. And, insofar as future industrial development of this area is con-



Donald Geagan, fisheries biologist, taking a water chemistry sample near the new tidewater ship channel now under construction in St. Bernard Parish. Water salinity greatly influences the distribution of fishes and other organisms in estuarine environments.

cerned, by having information of this type on hand, one might conceivably be able to predict what effect these proposed changes would have on the ecology of the area. If the development might prove to be deleterious, alternative or modified methods could be suggested that would reduce the damage to our natural resources.

It is hoped investigations of the fishery along Louisiana's coast can be continued and expanded after this particular project terminates. I'm sure everyone will agree that further accumulation of knowledge and the practical application of this information from projects such as this can benefit everyone who wants to utilize this natural resource to its fullest extent without destroying it. +

CARE FOR WORM

The new plastic-worm lures are fine on the end of a hook, but many an angler has had cause for despair when upon opening his tackle box he has discovered the worms have melted all over everything. It's a sticky situation. Here's the answer. Next time, place your worms in a jar filled with water. The advantages are obvious.

WATER BOTTOMS BONANZA!



IN LOUISIANA, the shell industry is far from the storied shell game. Everyone wins. Dredging of shells, and operation of industries using shells, are multi-million dollar activities in the state.

The average annual revenue received by the Louisiana Wild Life and Fisheries Commission in fees from various shell users is a small sum compared to millions of dollars spent in gathering and processing shells; and in the money derived from cement, lime, chicken feed, highways, secondary roads, air strips, acid neutralizers, construction of modern homes, and a score of other products from shells.

Obtaining shells for industry, and the transportation of shells to processing plants offers employment to several thousand people in Louisiana alone. Processing plants in the state employ additional thousands of persons.

Paradoxically, taking of shells from Louisiana water bottoms also includes widespread redistribution of shells to other water bottoms in the state to increase the supply of Louisiana oysters.

"In seeding new oyster beds, the Louisiana Wild Life and Fisheries Commission is continually restoring a valuable natural resource," according to James N. McConnell, chief, oysters, water bottoms and seafood.

"Figuratively speaking, we are taking two cracks at the same ball," he says. "We are assuring a permanent basic supply of shells. In doing so, we are expanding the oyster industry; and assisting in producing a basic raw material to feed the crushing rollers of industry, and satellite

state industries dependent upon this little known but economically important resource," McConnell points out.

McConnell is quick to allow the users of shell to explain how closely their operations are hinged to Louisiana's bountiful supply of shells. The Lake Charles Dredging and Towing Company is a good example of the shell game that lets everyone win.

C. B. Cribbs, vice-president of the Lake Charles company, reports the largest user, or customer of the company, is Olin Mathieson Chemical Corporation.

The Lake Charles plant's section, which handles shell from unloading of the raw material until processing is complete, employs approximately 350 people. This shell is used to manufacture lime, which in turn is an intermediate product in making soda ash.

Cribbs revealed that Lone Star Cement Corporation, in Lake Charles, is a large user of fine shell. This is separated on the dredge and used in the manufacture of cement. There are approximately 200 employees at that plant.

The Pelican State Lime Corporation, Morgan City, also uses shell from the Lake Charles Dredging and Towing Company. In addition to lime, the Morgan City company manufactures chicken feed. They have approximately 50 employees, according to Cribbs.

Another satellite company, Elks Concrete Products, Lafayette, uses shell from the Lake Charles Dredging and Towing Company. It uses fine shell as an aggregate for the manufacture of

concrete building blocks. It employs approximately 25 people.

"Our retail outlets will probably total 150 people," Cribbs reports. "This excludes road contractors who use shell on highways throughout the coastal area of the state."

At the present time, this company has personnel totaling 130. They are on dredges, boats, and shore-based operations, Cribbs says.

The dredge used by Lake Charles Dredging and Towing Company is the H. A. Sawyer. It is a 330-foot vessel with a beam of 50-feet. Its 22-inch pump is powered by two 1600 Superior engines. It was designed primarily to dredge shell for chemical and other manufacturing purposes, and still meet specifications for Highway Department work.

Shell is washed and separated into four different specifications or sizes, and loaded into separate barges according to the size which the customer desires for his individual manufacturing process.

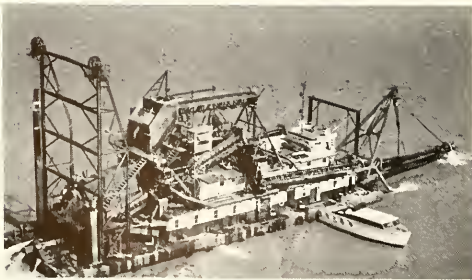
J. R. Ayers, Jr., president of the Ayers Materials Company of Harvey, reports his company uses clam, reef, and oyster shells.

Ayers defines "reef" shells as very old oyster shells dredged from a number of water bottom reefs. These shells are usually partially broken up and not too firm; thereby lending themselves very well to crushing, rolling, grinding, or compaction.

Dredging of clam shells is carried out much in the same manner as that used in obtaining reef shells. However, clam shells are more nearly round in shape, and much smaller in diameter. They are also firmer than oyster reef shells. The lime content of clam shells is about the same as oyster shells. It averages about 97 per cent.

In the shell business, the distinction between oyster reef shells is easily explained. "Oyster" shells are shells from freshly opened oysters. They are obtained from canneries, or local oyster houses and bars, after the oyster itself has been removed for food purposes.

"Principal uses in the south-central area," according to Ayers, are for clam and reef shells, either individually or as a mixture of the two kinds. The shells find ready market as a surfac-



Dredging for shells from the waterbottoms of Louisiana is a multi-million dollar business and the Wild Life and Fisheries Commission utilizes the resource tax by returning shells back to the water to assure a bountiful supply of oysters in the years to come.



Shell is washed and separated to four different specifications or sizes, and can load into separate barges according to size which the customer desires for his individual manufacturing process.

ing material for farm roads, secondary roads in the state, driveways, parking areas, drive-ins, and similar surfacing needs.

Probably more important is their use in first class highway and airport runway construction where shells are spread in varying thicknesses, rolled, watered and compacted. This use often involves mixing with cement, sand, or both. Some combined mixtures are also used as a base for concrete or asphalt black-topping.

In addition, Ayers revealed shells are used as French drains, linings for pipe and sewer line ditches and shoulder surfacing for highways. Clam shells can and have been successfully used as an aggregate for asphalt paving. Shell dealers believe it makes a better and safer road, particularly at night. The reason is that it is not as black as other types of asphalt paving.

All three types of shells are usable in the manufacture of both agricultural and commercial lime, soda, ash and other chemical products.

Kaiser Aluminum uses shells as a neutralizing agent at both its Baton Rouge and Chalmette plants. In addition to Lone Star Cement, other cement plants in the gulf states are using increasing amounts of shells in the manufacture of cement.

Clam, reef and oyster shells are used extensively for back-filling timber, steel and concrete bulkheads along water fronts. Shells are also used as a base to place rip-rap stone for breakwaters, dikes, and river bank erosion construction.

Since the advent of offshore oil drilling, the placement of shell mats on water bottoms to support submersible drilling barges and prevent drilling rigs from sinking in soft mud bottoms has become accepted practice. This is also done to reduce the depth of water in some instances to suit the particular drilling equipment being used. In either instance, shell have proved most satisfactory.

"Shells are used so extensively along Louisiana

coastal parishes that it is almost impossible to list them all," Ayers says. "They are even used to dam off canals and bayous in salt water intrusion control.

"We have been successful in getting them accepted by the Federal Housing Authority in lieu of gravel for use under concrete slabs for new home construction. One home developer," Ayers revealed, "used clam shell on the roofs of his houses recently, declaring their many white reflective surfaces reduced the interior temperature appreciably."

Ayers and other users of shells are confident that shells can be used practically wherever gravel is used, except as an aggregate for heavy duty concrete. The difference in weight of shell concrete compared to that in which gravel is used could be an advantage in many instances. Shells weigh from 1500 pounds to 1700 pounds per cubic yard, while gravel tips the scale at 2700 to 2800 pounds per cubic yard.

Oyster (cannery) shells are much firmer and generally whole unbroken shells. Therefore, they provide excellent surfacing across soft or muddy terrain, and as drainage areas for septic tanks, bulkheads and similar surfacing use. They can be used also as well as soft reef shells for poultry feed when ground up. Oyster shells are limited in importance; but this limitation is due to the available quantity in Louisiana as elsewhere.

The Ayers company operates three principal retail shell yards, all of which are served by navigable waterways—including land and rail transportation in some cases.

Main office of the Ayers plant is located at Harvey, Louisiana, on the Gulf Intracoastal Waterway (Harvey Canal) and is serviced by the Texas and New Orleans Railroad (Southern Pacific).

The Westwego Yard is on the Mississippi River across from New Orleans. It is serviced by the Texas Pacific-Missouri Pacific Railroad. Our Belle Chasse Yard is approximately 20 miles downstream from New Orleans, and in the vicinity of Alvin Callender Air Field, on the bank of the Mississippi River. This yard has no rail facilities. None are needed.

Ayers has an affiliate, the Delta Shell Company, which it supplies. This firm is located at Empire, Louisiana, roughly 70 miles below New Orleans just off the Mississippi River on the Empire Canal.

The firm also has two established dealers. One is located at Grand Isle, and the other on U. S. Highway 90 and Bayou Sauvage near Michoud, where the new Saturn Rocket Plant is being established.

Equipment owned and operated by the company includes two hydraulic shell dredges, a fleet of 25 steel deck barges, two self-propelled spud barges (unloading rigs) complete with crawler cranes on board. The cranes do channel dredging occasionally, and do crane lift-work for the firm's customers in the oil fields of Louisiana. Ayers also requires the services of several tugs. These

are rented or chartered as needed, and the same is true of the firm's trucking requirements.

The firm is qualified and has done marine salvage work; but does not seek it because salvage interferes with normal shell operations. Ayers also operates a total of five crawler-type draglines, two truck-type cranes, a couple of bucket conveyor-type loaders, tractors, and hoppers. They are used in the shell operations.

The firm also handles rip-rap stone for itself, and others, at the Harvey and Westwego Yards; providing facilities needed for storage, or crane and dockside use.

Another Louisiana firm, founded upon shell products, is Radcliff Materials, Incorporated. It has industrial plants located in New Orleans, Baton Rouge, Lake Charles and Luling. The firm's production locations are Lake Pontchartrain, Sabine Lake, Atchafalaya Bay, East and West Cote Blanche, Vermilion Bay and Calcasieu Lake.

Edward N. Lennox, a spokesman for Radcliff, describes the various activities of the company.

The company operates three dredges. They are the Albatross, the Pocahontas, and the Flamingo. These dredges are equipped with complete shell washing and grading facilities.

The Albatross has a capacity of 140,000 cubic yards and is operated by a crew of 24 men. The Flamingo's capacity is 100,000 cubic yards and has a crew of 21 men. The Pocahontas has a capacity of 60,000 cubic yards, and calls for a crew of 16 men.

The Albatross is a barge-type hull; the Pocahontas is a converted LCI (landing craft for infantry) hull. The Flamingo is a barge-type hull.

Areas for company operations are determined by the type of shell sought. Lakes Pontchartrain and Maurepas yield clam shell; while reef shell is taken from Atchafalaya Bay and Four League Bay.

Radcliff Materials, Incorporated, operates approximately 45 barges. They range in size from 120 x 30 feet to 240 x 50 feet. The capacity, or load limit, averages 300 to 2500 cubic yards of clam or reef shell.

To propel the barges, Radcliff operates eight tugs. They range from 40 feet to 90 feet, with power from 300 to 900 horsepower.

Company operations also involve use of 20 cranes, capable of handling from one-half to four cubic yards. Boom lengths of these cranes run up to 100 feet. Cranes are operated on land, and also are very easily mounted on barges for marine work. They have a capacity of loading or unloading between 150 to 400 cubic yards of shell per hour.

As with other shell operators, the various kinds of shells dredged by Radcliff find their way into important state industries.

Industrial uses of shells include petroleum, chemicals, Portland cement, lime, chicken feed, concrete masonry units, railroad ballast, as well as all types of base construction for road work, stabilization of bases for air fields, runways, in

addition to use in asphalt or plant mix. Shell "fines" are also used in the manufacture of roofing.

Radcliff's reef shells are supplied to manufacturers of Portland cement, as far away as Vicksburg, Mississippi, or nearly 400 miles from the company's Morgan City operations.

Shells are also furnished to the State of Mississippi, and the company's rail deliveries include the states of Alabama, Florida and Texas, as well as Louisiana.

Users of clam and reef shells are serviced by Radcliff in 17 Louisiana parishes, through 26 dealers and 15 company-operated stockpiles.

Radcliff Materials, Incorporated, a subsidiary of Southern Industries Corporation, employs over 500 people, with an approximate annual payroll of \$3,000,000.

Another big league shell industry is that of Jahncke Service. Many of their shell uses are similar to those described above. However, here are some pertinent details, as described by Paul F. Jahncke, Jr., firm president:

"We are furnishing clean washed clam shells to the U. S. Gypsum Company plant on the New Orleans Industrial Canal," he points out. "This is a firm with which we have a 15-year contract. U. S. Gypsum processes our shell in the manufacture of lime. Their present requirements, which they contemplate increasing, are approximately 10,500 cubic yards of shell a month."

Other outlets for Jahncke shell are Baton Rouge, where they are under contract with the following plants:

Standard Oil Company. This company uses shell for the maintenance of their lace-like refinery road system.

Ethyl Corporation, a firm which uses shell as a neutralizing agent on their waste acids before they are funneled into the Mississippi River.

Schuykill Products Company uses shell as a neutralizing agent.

Jahncke Service also supplies shell, both clam and reef, for secondary roads, parking areas, and in the manufacture of cement by the Ideal Cement Company in Baton Rouge.

"The production and sale of clam and reef shells has been a major part of our business for the last 25 years," Jahncke revealed. "And our company employs between 700 and 750 employees."

Annual payroll of the Jahncke company for the calendar year 1960 was \$3,859,000.00. Various taxes to the State of Louisiana amounted to \$245,524.52.

This figure can be understood quickly when it is explained that in the Jahncke company's marine division alone, it maintains and operates a fleet of four tugs, the shell dredge "Maurepas," two sand and gravel dredges operating in the Pearl River area, and a fleet of 64 barges. Of these barges, 33 are owned by Jahncke, with 31 others under charter.

This is only part of the overall operations of the Louisiana shell industry. There's enough de-

tail to show that in the shell game in Louisiana, everyone is a winner; and the Louisiana Wild Life and Fisheries Commission's share of the "winnings" is turned back into the business to keep the game going and industry booming. *

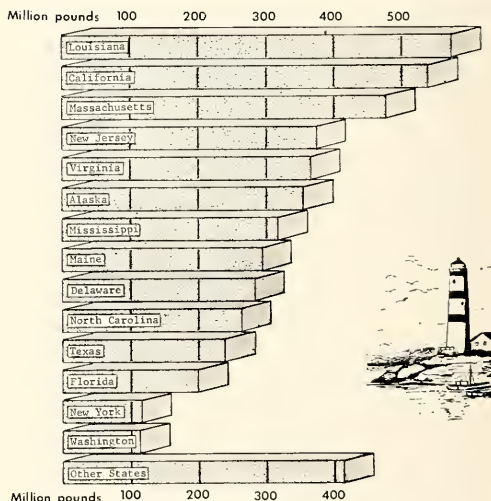
Louisiana Leads in Fish Catch

Louisiana's share of the total catch of fish and shellfish in the Gulf of Mexico for 1960 amounted to more than 566 million pounds according to the Wild Life and Fisheries Commission.

This catch not only put Louisiana in first place in the Gulf states, but lifted it to the top position in the nation for fisheries production during the year. These figures are reflected in a bulletin just released by the Bureau of Commercial Fisheries of the U. S. Fish and Wildlife Service.

The commercial catch of fish and shellfish

RELATIVE VOLUME OF THE CATCH BY STATES, 1960



landed at ports of the Gulf states, which include the West Coast of Florida, Alabama, Mississippi, Louisiana and Texas, during 1960 amounted to a record 1.3 billion pounds valued at 85 million dollars to the fishermen. Louisiana led other states in volume landed with 45 per cent of the total Gulf catch. The 1960 catch for the Gulf was 111 million pounds and 8 million dollars above the previous year. *

The Timber Wolf

The timber wolf, although no longer abundant, is found in Louisiana in the well-wooded uplands, however it is apt to turn up elsewhere because of its roving disposition. *

The Bird of the month

Charles R. Shaw

MISSISSIPPI KITE

Ictinia mississippiensis

THE MISSISSIPPI KITE is a long-winged, long-tailed bird, somewhat resembling the falcons but easily distinguished from them by its unique coloration. The slate-colored back and black-tipped wings and black tail contrast sharply with the pearl-gray head and breast of the adults, while the brownish immatures are heavily streaked below and usually have about three indistinct, light bands across the dark tail.

Some people think it resembles a giant sized martin in its graceful and effortless flight. It sometimes will check its flight abruptly and hang motionless in the sky. These birds are quite gregarious and may occasionally be found in loose flocks, this being especially noticeable during the migration period.

This is a very beautiful and beneficial bird and it seems almost inconceivable that some individuals would shoot it merely because it belongs to a group of birds, the hawks, to which man has mistakenly given a bad reputation. The mistake, of course, was to attribute the bad qualities of a very few destructive species to an entire family of which the great majority are beneficial. As a matter of fact only 3 of the 22 species of the hawk family in Louisiana are considered outlaws and the other 19 species are protected by Louisiana law.

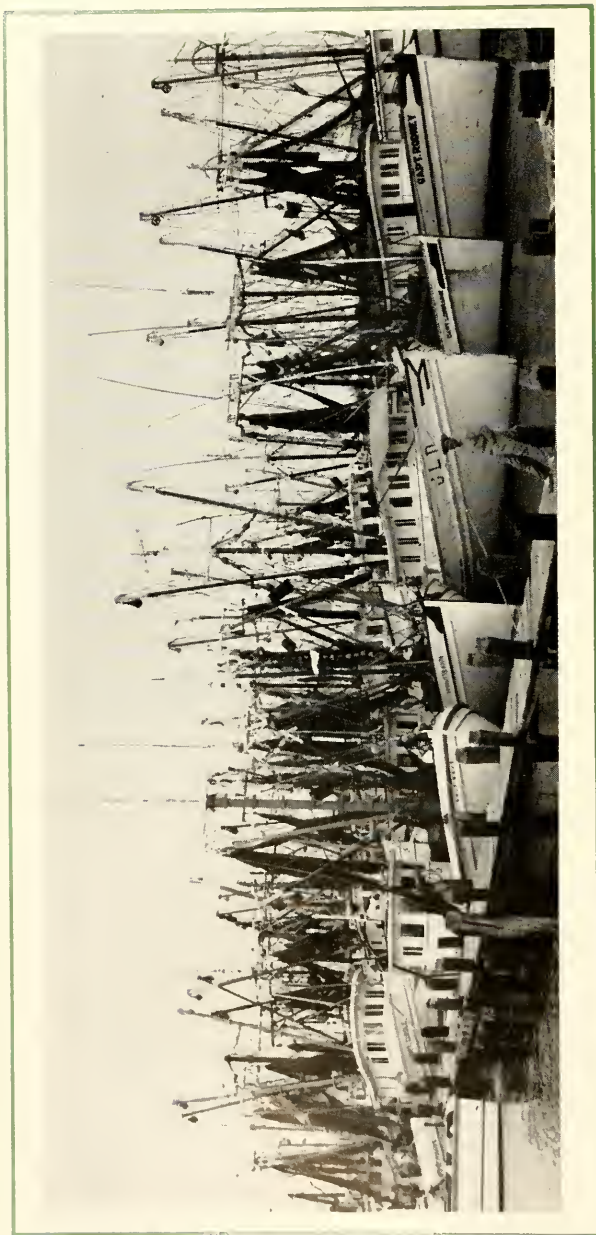
The Mississippi Kite is a fairly common summer resident of Louisiana, generally arriving in April and leaving again in September, and seemingly preferring the hardwood areas all along the Mississippi River bottomlands as well as similar locations along other large streams. It usually nests near the tops of fairly large trees in this state, and the nest itself is usually of the platform type. The bulky structure is made up of dry and green twigs and leaves and moss, etc. and may be lined with green leaves. Although there may be from one to three eggs the usual number is two. The eggs themselves are unmarked and are of a pale bluish-white color.

Even the most rabid hawk-hater could find little to fuss about in the Mississippi Kite's diet, which consists almost entirely of insects, especial-



ly the larger flying types such as grasshoppers, cicadas, and dragonflies.

It is certainly reasonable to hope that as we become a bit more civilized, we may differentiate among even the hawks and realize that we have some very good and helpful friends among this group of very interesting birds, and confine our efforts to extermination of only those which are outlawed by legal statutes. This means that only the Cooper and Sharp-shinned Hawks and the Duck Hawk would be affected because these are the only ones not protected by law in Louisiana.★



LOUISIANA'S Shrimp Fleet

Getting Ready

Louisiana's share of the total catch of fish and shellfish in the Gulf of Mexico for 1960 amounted to more than 566 million pounds. This catch not only put the Pelican State in first place in the Gulf states, but lifted it to the top position in the nation for fisheries production. Here the mighty shrimp fleet warms up for the opening of the shrimp season in inside waters on May 1. It is no secret that a hungry America awaits the delivery of the famous Louisiana jumbos.